

IN THE SPECIFICATION:

Please amend the specification as follows:

On page 5, line 12, please replace the paragraph:

FIG. 8 FIGS. 8a-8b. Schematic cross-sectional view and top view of a horizontal embodiment of a single-wafer megasonic cleaning apparatus having a pair of transducers mounted on either side of a substrate in accordance with the present invention.

On page 7, line 13, please replace the paragraph:

Two alternate configurations for the apparatus are presented in FIGS. 2 and 3. FIG. 2 shows a schematic cross-sectional elevation view of a first fast single-wafer megasonic cleaning apparatus 200 made in accordance with the present invention. FIG. 3 shows a schematic cross-sectional elevation view of a second embodiment of a fast single-wafer megasonic cleaning apparatus 200 made in accordance with the present invention. The second embodiment shown in FIG. 2 uses a smaller footprint to reduce the floor area the tool occupies. In both FIGS. 2 and 3, the apparatus 200 includes a container 205 for holding single wafer 90 to be cleaned and for holding the liquid cleaning medium 220, and a megasonic transducer 210 disposed to face the surface of single wafer 90 to be cleaned. Megasonic energy is directed 270 from megasonic transducer 210 toward the surface of single wafer 90 to be cleaned. As described herein below, conventional prior art megasonic transducers, such as those used in the batch ultrasonic cleaning system of FIG 1, are available as an array of megasonic transducers. Such an array of megasonic transducers is more clearly shown in the top view of FIG. 8b as it is applied to the single wafer embodiment of the present invention. As further shown in FIG. 8b, lower array of megasonic transducers 210a' is larger than single wafer 90. From the active surface of each megasonic transducer of the array, megasonic energy is directed at wafer 90, as shown in FIGS. 2, 3, 7, and 8a. However, while individual transducers of the array transmit their energy at various angles, no transducer having an active surface facing perpendicular to the active surface of transducer 210 is provided, as shown in FIGS. 2, 3, 7, 8a, and 8b, and no substantially comparable amount of energy is therefore provided from such a perpendicularly oriented transducer. The apparatus is arranged so that liquid cleaning medium 220 has a free liquid surface 250, and the liquid flow is shown in FIGS. 2 and 3 by flowlines 245 within container 205, by inlet flowlines 240, and by overflow outlet flowlines 260, showing that the liquid cleaning medium 220 overflows the container.

On page 10, line 3 to page 11, line 11, please replace the paragraph:

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In a horizontal implementation of the invention lower array of transducers 210a' are held in container 206, as illustrated in ~~FIG. 8~~ FIGS. 8a, 8b. Lower array of transducers 210a' have openings 211 between some of the individual transducers of the array for the entrance of fluid 220 into container 206. Substrate 90 is held above transducers 210a' with substrate holders 208. Fluid flows past both sides of substrate 90 before overflowing container 206 at overflows 260. Upper array of transducers 210b' can be brought into position with transducer loading arm 212 once substrate 90 has been loaded on holders 208. This embodiment allows more control over spacing between substrate and transducers than the embodiment of FIG. 7. Spacing between the bottom surface of substrate 90 and lower array of transducers 210a' is fixed by holders 208. Spacing of top surface from upper array of transducers 210b' can be controlled by adjusting height of upper array 210b' to accommodate differences in substrate thickness.